Multiple Choice Answers

Q19: C
Q20: D
Q21: B
Q23: A
Q28: B
Q30: A
Q32: D
Q38: B
Q39: B

Multiple Choice Answers

Q14: B
Q17: B
Q18: D

3(a)(i)	**A** denitrification ; **B** nitrification ;
3(a)(ii)	*any two from:* lightning ; bacteria ; **AVP** ;
3(a)(iii)	ammonia / ammonium (ions) ;
3(a)(iv)	liver ;
3(a)(v)	removal of nitrogen containing part (of amino acids / protein) ; urea is formed ;
3(b)	greenhouse effect ; rice ; carbon dioxide ; photosynthesis ; burning / combustion ;
3(c)	*any six from*: **1** untreated sewage / fertiliser / nutrients ; **2** increased availability of nitrates / ions / AW ; **3** causing algal bloom / algae reproduction ; **4** algae reduce (penetration of) sunlight (in the water) / AW ; **5** (so rooted) plants unable to photosynthesise ; **6** so plants die ; **7** bacteria, decompose / feed, on dead, plants or algae ; **8** so bacterial populations increase ; **9** bacteria respire aerobically ; **10** bacteria use up the oxygen in the water ; **11** organisms / fish , die / suffocate / migrate, due to lack of oxygen ;

2(a)(i)	*any two from:* multicellular / AW ; producer / *ref. to* photosynthesis / (presence of) chloroplasts or chlorophyll ; cellulose cell wall ; non-motile ; reproduces asexually, and / or, sexually ; **AVP** ;

2(a)(ii)	*any two from:* animal ; fungi ; protoctist ; prokaryote ;
2(b)	(vascular bundles) would be in a ring / AW ;
2(c)	root hair labelled ; xylem correctly drawn and labelled ; phloem correctly drawn and labelled ;
2(d)	*any two from:* transport / AW, of water ; transport / AW, of (mineral) ions / minerals ; support / AW ;
2(e)	*any five from:* **1** girdled trees produced a greater mass of fruit / **ora** ; **2** comparative data manipulation ; **3** phloem transports, sucrose / amino acids ; **4** leaves, photosynthesise / produce (named), carbohydrates / sugars ; **5** sugars / sucrose / amino acids, used for growth of fruit ; **6** *idea that* (in girdled tree) sucrose / sugar / amino acids, stays in the branch / cannot be transported downwards ; **7** *ref*. to translocation ; **8** leaves are the source ; **9** (growing) fruit is the sink ;
2(f)	pectinase ;

6(a)	20 ; 90 ; muscles / blood ; debt ; liver ; oxygen ; aerobic ;
6(b)(i)	liver ;
6(b)(ii)	kidney ;
6(c)	$C_6H_{12}O_6 \rightarrow$; $2C_2H_5OH + 2CO_2$;
6(d)	bread / **AVP** ;

1(a)(i)	table drawn with a minimum of two columns and a header line ; appropriate column / row headings, with units for height ; recording two (final) heights ; (1%) 13±1 (mm) **and** (4%) 23±1 (mm) recorded ;
1(a)(ii)	the higher concentration (of glucose solution) the, greater / faster, the (rate of) respiration (in yeast) ; **ora**
1(a)(iii)	*independent variable:* concentration of glucose ; *dependent variable:* height (of the yeast in the large test-tube) ;
1(a)(iv)	(use a) thermostatically controlled water-bath / **AVP** ;
1(a)(v)	to avoid, contamination / AW ;
1(b)	*glucose:* 3 (cm^3) **and** *distilled water:* 2 (cm^3) ;
1(c)	add Benedict's (reagent) ; heat ;
1(d)(i)	cloudy / white / milky ;
1(d)(ii)	*any one from:* keep away from, flames / fire / Bunsen / burner ; cover the container (to prevent evaporation) ; (use in a) well-ventilated area / fume cupboard / AW ; wear goggles ;